

ABSTRACT OF THE INVENTION

In the present invention, a technique is described for manufacturing microtube devices which have peripheral geometries that are not uniform along the tube or device axis. These geometries may exist in only one location on the periphery of the microtube device or geometries may be repeated either uniformly or non-uniformly with micron or sub-micron precision along the tube or device axis. The preferred manufacturing process involves forming a complex mandrel, ie., (one, for example, that can not be formed by extrusion or pultrusion under constant processing conditions) and giving it at least one metallic and/or nonmetallic coating by any of a variety of techniques. The complex mandrel can then be removed by appropriate chemical or physical means that do not adversely affect the coating(s) desired for the wall. The result is a microtube structure having an axial profile duplicating that on the mandrel from which it was formed.